Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	
Expanding Flexible Use of the 3.7 GHz to 4.2 GHz Band	GN Docket No. 18-122
Petition for Rulemaking to Amend and Modernize Parts 25 and 101 of the Commission's Rules to Authorize and Facilitate the Deployment of Licensed Point-to-Multipoint Fixed Wireless Broadband Service in the 3.7-4.2 GHz Band	RM-11791
Fixed Wireless Communications Coalition, Inc., Request for Modified Coordination Procedures in Band Shared Between the Fixed Service and the Fixed-Satellite Service	RM-11778

COMMENTS OF ITC GLOBAL, INC.

ITC Global, Inc. ("ITC Global") submits these comments in response to the Commission's Notice of Proposed Rulemaking ("NPRM") seeking input regarding potential reallocation of portions of the 3.7-4.2 GHz band – the downlink (earth station receive) portion of conventional C-band fixed-satellite service ("FSS") spectrum – for new terrestrial wireless services.[1] ITC Global acknowledges the potential public benefits of reallocating additional spectrum for terrestrial mobile services in areas where capacity may be constrained, but also notes that C-band satellite services constitute a critical aspect of U.S. communications connectivity – particularly in the government, maritime and energy sectors served by ITC Global – that should be preserved. Thus, ITC Global urges the Commission to protect incumbent C-band gateway and remote earth station operations within the United States, to ensure future access to the 3.7-4.2 GHz band for such earth station operations, and to preserve C-band maritime operations in the context of this proceeding.

[1] *Expanding Flexible Use of the 3.7-4.2 GHz Band*, Order and Notice of Proposed Rulemaking, GN Docket No. 18-122, *et al*. (rel. July 13, 2018) (the "NPRM").

I. INTRODUCTION

ITC Global is a leading provider of satellite communications to the energy, mining, maritime and non-governmental organization ("NGO") markets and operates 24x7 carrier-class networks across the Americas, Europe, Asia, Africa and Australia. ITC Global enables real-time, operational decision-making and enhanced health, safety, and environmental management by providing unified communications solutions tailored to the requirements of each customer.[2]

ITC Global operates a satellite services network that utilizes the C-band spectrum band in the United States and throughout the Americas to deliver communication solutions for its customers in remote and underserved locations. For example, ITC Global provides operational and crew communications to offshore rigs and support vessels in the Gulf of Mexico, and to remote energy, mining and NGO facilities that cannot be adequately served by terrestrial communications technologies. These important infrastructure, development and humanitarian operations have positive economic, political and national security implications for the United States and its partners.

Therefore, it is in the public interest for the Commission to protect the incumbent C-band gateway earth station operations in the 3.7-4.2 GHz band within the United States upon which ITC Global and its customers rely, to preserve end-user earth stations in remote areas throughout the band and to ensure access to the spectrum for C-band maritime operations.

II. THE COMMISSION SHOULD PROTECT INCUMBENT C-BAND GATEWAY AND REMOTE EARTH STATION OPERATIONS

C-band spectrum, including the 3.7-4.2 GHz downlink band and the associated 5.925-6.425 GHz uplink band, is essential for the provision of satellite services in the United States and

[2] ITC Global became a subsidiary of Panasonic Corporation in 2015. For more information, visit www.itcglobal.com.

around the world. The wide coverage and high availability of C-band satellite services make them especially well-suited for remote, data-intensive applications such as energy, mining and maritime operations, as well as for providing connectivity in developing countries and sparsely populated or geographically remote areas.

The Commission itself noted that C-band FSS spectrum "has a variety of uses, including providing broadband Internet service to consumers (particularly in rural areas), enabling communications on board planes and ships, delivering television programming to cable headends, providing data connectivity for merchant credit card transactions, and supporting corporate data networks."[3] These critical services rely on the availability of gateway earth stations operating in in the 3.7-4.2 GHz band in the United States.[4]

C-band gateway earth stations enable international satellite networks capable of serving disparate locations and adapting rapidly to changes in traffic distribution and customer location. While there is evidence of potential incompatibility between C-band gateway operations and mobile base station and handset operations in the 3.7-4.2 GHz band,[5] it may be possible to adopt

[3] *Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz*, Notice of Inquiry, GN Docket No. 17-183 (rel. Aug. 3, 2017) at ¶ 8.

[4] *See id.* It should be noted that U.S. gateway earth stations use the 3.7-4.2 GHz band support "return link" (remote-to-gateway) communications from C-band end-user terminals located within and outside the United States. Restricting U.S. gateway receive operations in the band will therefore adversely affect use of corresponding C-band uplink spectrum regardless of a terminal's geographic location. Thus, the Commission's actions will have effects that extend far beyond any direct limitation imposed on C-band gateways themselves.

[5] *See e.g.* Report ITU-R S.2368, June 2015, "Sharing studies between International Mobile Telecommunication-Advanced systems and geostationary satellite networks in the fixed-satellite service in the 3 400-4 200 MHz and 4 500-4 800 MHz frequency bands in the WRC study cycle leading to WRC-15 (http://www.itu.int/pub/R-REP-S.2368-2015); and Report ITU-R M.2290-0, December 2013: "Future spectrum requirements estimate for terrestrial IMT" (https://www.itu.int/pub/R-REP-M.2290). *See also* AsiaSat, "The Importance of Retaining C-band for Satellite Service in the Asia-Pacific", June 2018, https://www.asiasat.com/sites/default/files/importance-of-retaining-cband-for-satellite-service-in-asia-pacific-region.pdf.

appropriate measures to protect incumbent operations when introducing new terrestrial mobile services into the 3.7-4.2 GHz band. Limitations on spectrum use, as well as geographic separation in less-densely populated regions that have little need for additional spectrum to satisfy consumer demand for terrestrial mobile services, may be possible mechanisms to facilitate compatibility. ITC Global therefore urges the Commission to adopt appropriate provisions to grandfather incumbent gateway operations in the United States.[6]

End-user earth station operations in remote locations should be similarly grandfathered. Because additional spectrum in the C-band is not required to satisfy consumer demand for terrestrial mobile services in less densely populated regions, there is no public interest basis to terminate or relocate incumbent satellite services. Any new rules or policies adopted by the Commission in this proceeding should ensure that C-band end-user earth station operations currently authorized in the 3.7-4.2 GHz band are preserved in such areas.[7]

III. THE COMMISSION SHOULD ENSURE CONTINUED ACCESS TO THE 3.7-4.2 GHZ BAND FOR GATEWAY AND REMOTE EARTH STATION OPERATIONS

In addition to grandfathering incumbent gateway and remote earth station operations in the 3.7-4.2 GHz band, the Commission should ensure continued access to the band for future earth station operations.

In less-densely populated regions where there is limited need for additional spectrum for mobile wireless services, this can be accomplished by avoiding unnecessary reallocation of any part of the band for terrestrial mobile use. Alternatively, it may be possible to implement a spectrum coordination approach that would allow new earth stations authorized in remote areas to receive interference protection from future terrestrial deployment.

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[6] *See also* Section III, *infra*, regarding continued earth station access to the 3.7-4.2 GHz band.

[7] *See id*.

C-band earth stations that seek to operate in closer proximity to more-densely populated regions should be permitted to do so, although they may require modification to effectively operate. High-power terrestrial base station transmissions can overwhelm sensitive earth station receivers and preclude sharing of any portion of the 3.7-4.2 GHz band, but earth station equipment modification can facilitate adjacent band operations and permit transitioning of a portion of the band to terrestrial mobile services.[8] In such circumstances, earth station operators should be appropriately compensated for additional equipment or other costs of facilitating terrestrial mobile access to the relevant spectrum.[9]

IV. THE COMMISSION SHOULD PRESERVE C-BAND MARITIME OPERATIONS IN AND AROUND THE UNITED STATES

C-band spectrum provides vital communication links for off-shore energy and commercial maritime applications. Other FSS satellite spectrum (such as Ku-band and Ka-band) can provide supplemental coverage but C-band remains essential due to its high reliability and global reach. The Commission has recently acknowledged this in the context of its recent earth stations in motion ("ESIM") order by adopting new rules for C-band ESIM operations.[10] The Commission's NPRM in this proceeding was focused on the potential transition of spectrum for use in the United States by new terrestrial mobile services. However, the Commission authorizes C-band earth station operations outside the United States, including earth stations on oil rigs and support ships in the U.S. portion of the Gulf of Mexico, as well as C-band ESV operations on

[8] Consistent with international trends, the Commission should consider reallocating only a small portion of the 3.7-4.2 GHz band for terrestrial mobile services.

[9] *See* Section V, *infra*.

[10] *Amendment of Part 2 and 25 of the Commission's Rules to Facilitate the Use of Earth Stations in Motion Communicating with Geostationary Orbit Space Stations in Frequency Bands Allocated to Fixed-Satellite Service*, Report and Order and Further Notice of Proposed Rulemaking, GN Docket No. 17-95 (rel. September 27, 2018).

U.S.-flagged vessels. The Commission should ensure that any rules or policies adopted in the proceeding do not constrain, limit, or otherwise adversely affect maritime satellite services provided using C-band spectrum.

V. C-BAND EARTH STATION OPERATORS AND SERVICE PROVIDERS SHOULD BE APPROPRIATLEY COMPENSATED

To the extent the Commission moves forward with reallocating a portion of the 3.7-4.2 GHz band, there will be significant technical and operational implications for incumbent earth station operations. Operators and service providers will incur significant costs in resolving interference, relocating or modifying facilities, and potentially limiting their use of spectrum to a subset of the 3.7-4.2 GHz band. Accordingly, the Commission should adopt compensation mechanisms under which new terrestrial mobile entrants would bear the direct and indirect costs associated with such reallocation. The Commission has previously adopted such compensation for incumbent licensees where it has determined that the public interest dictated a change to the existing spectrum allocations.

Multiple mechanisms may be under consideration to facilitate potential transition of a portion of the 3.7-4.2 GHz band for terrestrial mobile services.[11] Regardless of the spectrum transition mechanism ultimately adopted, the Commission should ensure that earth station

[11] *See* C-Band Alliance, *Notice of Ex Parte Communication*, GN Docket Nos. 17-183, 18-122 (Oct. 23, 2018) (proposal to clear up to 200 MHz of mid-band spectrum, opening new spectrum to support 5G wireless deployment while protecting current users); *see also* Improving Public Safety Communications in the 800 MHz Band, WT Docket No. 02-55, Report and Order, Fifth Report and Order, Fourth Memorandum Opinion and Order, FCC 04-168, 19 FCC Rcd 14969 (2004), at ¶¶ 177-178 (imposing the principal cost of band reconfiguration on Nextel, which will pay for relocation and ensure that relocated licensees receive at least comparable facilities when they change channels); *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, GN Docket No. 12-268, Report and Order, FCC 14-50, 29 FCC Rcd 6567 (2014), at ¶¶ 25-26 (adopting forward and reverse auctions for the Broadcast Incentive Auction) and ¶ 35 (adopting procedures to reimburse costs reasonably incurred by television stations that are reassigned to new channels, as well as certain costs incurred by others).

operators as well as satellite service providers are appropriately compensated for all costs of accommodating new entrants.

VI. CONCLUSION

For the foregoing reasons, ITC Global urges the Commission to grandfather incumbent C-band gateway and remote earth station operations in the 3.7-4.2 GHz band, to maintain future access to the band for such services, and to preserve C-band maritime operations in and around the United States. The Commission should also ensure that C-band earth station operators and service providers are appropriately compensated for the costs of accommodating new terrestrial mobile services in any portion of the 3.7-4.2 GHz band.

Respectfully submitted,

ITC GLOBAL, INC.

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EllenAnn Sands
Senior Counsel
ITC Global, Inc.
3520 S. Sam Houston Pkwy East, Ste. 400
Houston, TX 77047